



In re Application of:

PHILIP NEIL GARNER, et al.

Application No.: 09/695,077

Filed: October 25, 2000

For: LANGUAGE RECOGNITION USING  
A SIMILARITY MEASURE

Mail Stop Amendment  
THE COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, VA 22313-1450

Sir:

Transmitted herewith is a Supplemental Amendment in the above-identified application.

☒ No additional fee is required.

The fee has been calculated as shown below

CLAIMS AS AMENDED						
	(2) CLAIMS REMAINING AFTER AMENDMENT		(4) HIGHEST NO. PREVIOUSLY PAID FOR	(5) PRESENT EXTRA	RATE	ADDITIONAL FEE
TOTAL CLAIMS	* 101	MINUS	** 102	= 0	x \$9 \$18	0
INDEP. CLAIMS	* 5	MINUS	*** 6	= 0	x \$43 \$86	0
Fee for Multiple Dependent claims \$145°/\$290						
TOTAL ADDITIONAL FEE FOR THIS AMENDMENT---						0

\* If the entry in Column 2 is less than the entry in Column 4, write "0" in Column 5.

\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 20, write "20" in this space.

\*\*\* If the "Highest Number Previously Paid For" IN THIS SPACE is less than 3, write "3" in this space.

- ☐ Verified Statement claiming small entity status is enclosed, if not filed previously.
- ☐ A check in the amount of \$\_\_\_\_\_ is enclosed.
- ☐ Charge \$\_\_\_\_\_ to Deposit Account No. 06-1205. A duplicate copy of this sheet is enclosed.
- ☒ Any prior general authorization to charge an issue fee under 37 C.F.R. 1.18 to Deposit Account No. 06-1205 is hereby revoked. The Commissioner is hereby authorized to charge any additional fees under 37 C.F.R. 1.16 and 1.17 which may be required during the entire pendency of this application, or to credit any overpayment, to Deposit Account No. 06-1205. A duplicate copy of this paper is enclosed.
- ☐ A check in the amount of \$\_\_\_\_\_ to cover the fee for a \_\_\_\_\_ month extension is enclosed.
- ☐ A check in the amount of \$\_\_\_\_\_ to cover the Information Disclosure Statement fee is enclosed.
- ☒ Applicants' undersigned attorney may be reached in our Costa Mesa, California office by telephone at (714) 540-8700. All correspondence should continue to be directed to our address given below.

Respectfully submitted,



Attorney for Applicants  
Carole A. Quinn  
Registration No.: 39,000

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01263.001881.

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:

PHILIP NEIL GARNER, et al.

Application No.: 09/695,077

Filed: October 25, 2000

For: LANGUAGE RECOGNITION  
USING A SIMILARITY  
MEASURE

Examiner: Martin Lerner

Group Art Unit: 2654

**RECEIVED**

DEC 09 2004

Technology Center 2600

December 3, 2004

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

SUPPLEMENTAL RESPONSE

Sir:

This response is supplemental to the Amendment dated July 19, 2004,  
which was in response to the Office Action dated March 19, 2004.

In the Office Action, Claims 1 to 5, 21 to 25, 30 to 32, 37 to 39, 48 to 52, 68  
to 73, 77 to 79, 84 to 86, 90, 96 to 97, 99 and 101 are rejected under 35 U.S.C. § 102(b)  
over U.S. Patent No. 5,737,489 (Chou), Claims 20, 35, 36, 46, 67, 82, 83, 93, 98, 100 and  
102 are rejected under 35 U.S.C. § 103(a) over Chou and U.S. Patent No. 6,662,180 (Aref),  
and Claims 33, 34, 80 and 81 are rejected under 35 U.S.C. § 103(a) over Chou and U.S.  
Patent No. 5,333,275 (Wheatley).

The Office Action seems to consider that the confidence data generated by Chou's verification processor is the same as the present invention's similarity measure, and that Chou's verification processor uses confidence data to generate the similarity measure. More particularly, the Office Action relies on equation (2) of Chou, col. 8, line 45, and indicates that this portion of Chou discloses the present invention's similarity measure calculator and similarity measure. More particularly, commencing at the bottom of page 3, the Office Action indicates that equation (2) generates a measure of similarity based on a keyword hypothesis,  $g_i(O_q)$ , which the Office Action considers to be confidence data, and an alternative hypothesis,  $G_i(O_q)$ , which the Office Action considers to be confusion data.

However, Chou's equation (2) is not seen to be the same as the present invention's similarity measure calculator, and/or is not seen to provide a measure of similarity, as defined by the present invention.

As discussed in the July 19, 2004 Amendment, Chou's approach is seen to be based on individual words. Referring to col. 5, lines 37 to 45 of Chou, a word is based on a feature vector, and a word-based confidence score calculator performs calculations on the discrete word signals by comparing each word to verification (i.e., hidden Markov) models.

The present invention's similarity measure calculator is operable to compare a recognized sequence of labels with a stored sequence of labels. According to the present invention, a label may be a word or a phoneme, for example. Thus, in contrast to Chou's approach which is seen to be based on individual words, the present invention's similarity measure calculator operates on recognized and stored sequences of labels, e.g., sequences of words or phonemes.

Thus, the keyword hypothesis portion of Chou's equation (2), which the Office Action considers to be the present invention's confidence data, is seen to represent an individual word, or keyword. Chou's keyword hypothesis is not seen to represent a confidence that a recognized sequence of words, for example, is representative of an input signal. Accordingly, Chou's keyword hypothesis is therefore not seen to be the same as the present invention's confidence data.

Further, since Chou is not seen to use confidence data as defined by the present invention, Chou cannot therefore be seen to compare a recognized sequence of labels with a stored sequence of labels using a combination of predetermined confusion data and confidence data representative of the confidence that the recognized sequence of labels represents an input signal to provide a measure of similarity between the recognized sequence of labels and the stored sequence of labels, and nothing in Chou is seen to show a similarity measure calculator operable to perform such a comparison.

As discussed in the July 19, 2004 Amendment, the remaining applied art, namely Aref and Wheatley, is not seen to remedy the deficiencies noted above with respect to Chou.

Therefore, for at least the reasons set forth herein and in the July 19, 2004 Amendment, independent Claims 1, 48, 97, 99 and 101 are believed to be in condition for allowance.

The remaining claims are each dependent from the independent claims discussed above and are therefore believed patentable for the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual consideration of each on its own merits is respectfully requested.

In view of the foregoing, the entire application is believed to be in condition for allowance, and such action is respectfully requested at the Examiner's earliest convenience.

Applicants' undersigned attorney may be reached in our Costa Mesa, California office at (714) 540-8700. All correspondence should continue to be directed to our below-listed address.

Respectfully submitted,

A handwritten signature in cursive script, appearing to read "Carole A. Quinn", is written over a horizontal line.

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